reconsider both their methods and the principles underlying them. In that work Dr. Montessori made reference to the importance of accurate physical records, and gave testimony to the influence these had had in leading up to the system in use in the children's houses. The translation of her lectures on anthropology as applied to education has therefore been awaited with great interest, and the result is a book which must lead all responsible for the physical welfare of the school-child to take stock of their data and their conclusions.

This volume, comprising the lectures given by the author to students of education and medicine in the University of Rome, should prove of interest to the lecturers on school hygiene at training colleges, who might with advantage incorporate into their syllabus some of the methods suggested. The volume should also be read by the school medical officers as containing many items relative to the diagnosis, and to some extent the prognosis of abnormal children. A biographic and biometric record should be kept of every child, since the study of the individual should indicate the particular form of education required.

The respective parts which Dr. Montessori considers should be played in the application of pedagogical anthropology are perhaps revealed by the direction that a *bad* child should be taken to see a *physician* because it is almost certain that he is a sick child in whom anomalies of character may coincide with morphological variations. But the treatment of such maladies is very often mainly pedagogical; curative pedagogy, however, must absolutely abolish punishment. By the general use of the biographic charts the observer is able to see in every social class "those individual variations in physical and physiological condition which contribute to the development of the intelligence and to the manifestations of sentiments which play an active part in practical life."

In the children's houses the teachers and doctors are able to study every aspect of the families, economic, social, medical, and moral, and so can collect the data which will be needed for any rational efforts at reform. It is as idle to expect to cure the body politic until the roots of the social evils have been probed to the utmost as it would be to expect to cure a patient by a random selection of nostrums without first employing the ordinary methods of diagnosis. The author regards the introduction of biographic charts in schools as nothing less than a reform of science as a whole, upon which pedagogy, medicine, jurisprudence, and sociology may alike lay new foundations. These are stirring suggestions, which ought to bear fruit in this country, if anywhere, since by now every elementary-school child has its medical and pedagogical progress recorded, and the vast stress of information concerning family circumstances of an economic and social character collected by the untiring efforts of the teachers and of the working members of care committees could be correlated therewith. Such work should be general, and not confined to one or two areas and laboratories, and would be a worthy task for our larger education authorities or a department of State.

The value of the particular physical and mental measurements recommended by Dr. Montessori and the precise method of investigation to pursue may be matters of dispute; many of the data and standards cited in the text will be regarded by the anthropologist as invalid when applied as tests elsewhere than in Italy, but none can dispute the stimulus to be derived from a perusal of this book, and still more of an effort to apply the general reasoning employed to the needs of particular children or groups of children, with due corrections for their urban or rural environment, the comfort or poverty of their homes, and the racial and social status of their ancestry. The result might help to hasten the dawn of that biological liberty which the author postulates as the very essence of the newest pedagogy, which will prepare each pupil for that form of employment which is best suited to his individual temperament and tendencies.

THE PHENOMENON OF ANAPHYLAXIS.

Anaphylaxis. By Prof. Charles Richet. Authorised translation by J. Murray Bligh. Pp. xii+266. (Liverpool: The University Press; London: Constable and Co., Ltd., 1913.) Price 3*s.* 6*d.* net.

THIS translation of Prof. Richet's excellent little manual on anaphylaxis will be very welcome to English readers. In 1902 Richet and Portier found that previous injection produced increased sensitivity to the poison extracted from the tentacles of actinaria. This being the opposite to the immunity following successive injections of most toxins, which has been so much studied of recent years, Richet gave the name "Anaphylaxie" to the phenomenon.

Indications of the existence of hypersensitivity to a second injection of protein substances had been previously recorded by Majendie, Theobald Smith, Behring, and others. The occurrence of the phenomenon was, however, inconstant, and remained unexplained. Exact knowledge of it dates from Richet and Portier's experiments. They found that, with the poison they were working with, the phenomenon was constant, provided a definite interval were allowed to intervene be-

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tween the injections. In other words, an essential condition of anaphylaxis is that a considerable interval—three or four weeks—elapse between the first and second injections.

Afterwards it was discovered that the subcutaneous injection of almost every form of protein foreign to the particular species of animal experimented upon, is capable of giving rise to this peculiar condition, and that, as extremely minute quantities are required for the first or sensitising dose, it is a delicate test for the presence of a particular protein. The reaction is so specific that proteins from a horse can be distinguished from those from an ox, and by means of it the presence of horseflesh in a sausage can be determined or a human bloodstain identified.

The manifestations of anaphylaxis, which may be generally described as those of collapse or shock, differ somewhat in different animals, but for the same animal are much the same whatever the protein used for injection. The symptoms develop within a few minutes; recovery, if it occur, is sudden, and for some time afterwards the animal has lost its sensitivity to the particular poison.

During the last few years anaphylaxis has occupied the attention of a large number of investigators, and hundreds of papers have been published dealing with its nature and the conditions determining its occurrence, but it cannot be said to be even yet completely understood.

The great merit of Richet's book is that he has analysed the voluminous data and rendered them into a clear exposition of the subject so far as it is known up to the date of publication. This, only one who was himself intimately acquainted with the subject and had actively participated in its development could possibly do.

The book is delightfully written, and the translation has been well and faithfully performed. The translator has increased the usefulness of the English edition by adding some of the more important papers published during 1912 to the literature cited in the original. C. J. M.

AN INTRODUCTION TO CARTOGRAPHY.

Maps and Survey. By A. R. Hinks, F.R.S. Pp. xvi + 206 + xxiv plates. (Cambridge University Press, 1913.) Price 6*s.* net.

STUDENTS of geography will find in this book an extremely useful account of those methods of earth and land measurement which provide the foundation on which most of their work is based. The procedure and the general results of various operations in surveying are described, but no attempt is made to furnish detailed instructions for executing a survey. These are to be sought in manuals of surveying. On the other hand, the author has provided a clear and comprehensive account not only of the simpler methods of topographical surveying, but also of the more elaborate operations which are requisite where large tracts of country are concerned, and, moreover, of those refined operations which aim at determining the precise shape and size and the physical character of the earth.

Passing from the methods of measurement, the graphical expression of them in the form of maps is very fully dealt with, and especially the various methods of representing relief of surface by means of line, shading, and colour.

The use of maps being more widely practised than the land measurement which provides the data for their compilation, the first two chapters deal especially with maps, and a clear and concise account is given of the most suitable ways in which communications and the relief of the surface can be expressed in maps of various scales, as well as of the various conventions which are required to express geographical information clearly and concisely.

A very instructive chapter is that in which a series of topographical map sheets, both British and foreign, are analysed to show the methods employed for presenting different classes of geographical data, and many coloured examples of these maps are included. We look forward to see this portion of the book further extended in future editions, so as to discuss the representation of other classes of geographical data and phenomena, besides settlements, communication, and relief, with the view of showing them to the best advantage, perhaps as special maps, without their being masked by other detail, as not infrequently is the case at present.

The general account of surveying methods, both the elementary and the more elaborate and precise, occupies the greater part of the book, which is to be recommended to all students of geography as providing them with descriptions of different methods of work, of which the special advantages and the limitations are clearly explained. The view held by many military topographers in this country, that the plane-table should be kept as simple as possible in form and equipment, is noted as having undergone some modification of late, and telescopic alidades with parallel rule attachment are now much used. It should be the local conditions of work in each case that should determine the form of plane-table as of any other instrument, and not a fixed rule, for the trained surveyor should continually modify both his methods and his equipment so as to produce work of the neces-

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